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LETTER TO THE EDITOR

Response to "MtDNA depletions and deletions may also important in pathogenesis of lung cancer"

We appreciate the interest of Emin Akgul et al. in our research on mtDNA mutations in exhaled breath condensate in patients with lung cancer [1]. As the authors of this letter indicated, large scale deletions and mtDNA depletions have also been implicated in the pathogenesis of cancer development as in given examples of Kearn—Sayre syndrome and Alper's syndrome, and furthermore that these have been investigated in studies of lung cancer. Our study was intended to be a pilot study looking at mtDNA changes in EBC of lung cancer patients, and we chose the D-loop as a region to study as it is a hotspot of point mutations in a variety of cancers, including lung cancer [2]. Furthermore, previous literature has suggested that frequency of D-loop mutations correlated with tumour grade and lymph node metastases, suggesting that analysis of D-loop mutations may have prognostic value [3].

We agree that it would be interesting to study large scale deletions and mtDNA copy number changes both as a reflection of oxidative damage and as a cause of production of reactive oxygen species which have been implicated in carcinogenesis. In a prospective study higher mtDNA copy number has been associated with risk of developing lung cancer [4], however a commonly studied 4977-bp deletion in mtDNA was not demonstrated to be associated with an increased risk of lung cancer [5] despite being higher in bronchoalveolar tissues of smokers [6].

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